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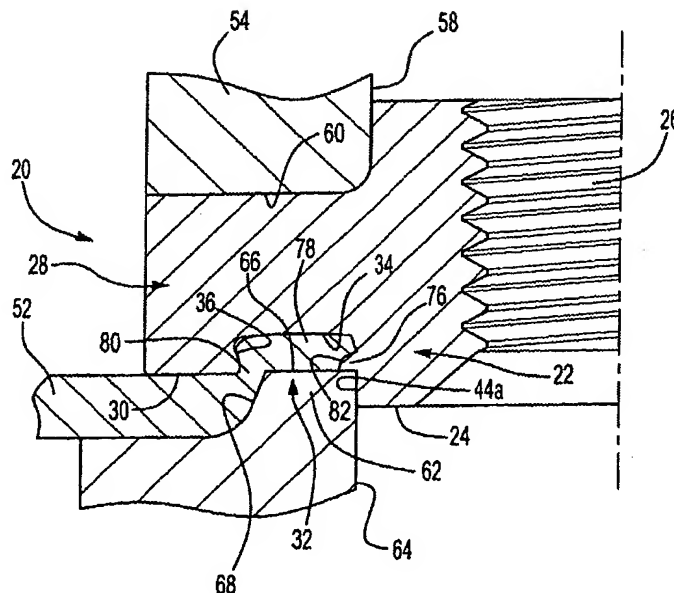
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(54) Title: SELF-PIERCING FEMALE FASTENER, METHOD OF FORMING A SEALED FEMALE FASTENER AND PANEL ASSEMBLY AND PANEL ASSEMBLY



(57) Abstract: Method of forming a sealed joint between a nut (20) having a cylindrical pilot (22), an annular flange portion (28) surrounding the pilot and an re-entrant groove (32) and a panel with a die having an annular lip (62) which deforms a panel portion into the groove (32) and simultaneously shaves an outer surface of the pilot onto the panel. The annular groove in the flange portion includes an arcuately inclined outer side wall (36) and an inner side wall (38) arcuately inclined toward the flange portion.

WO 03/062651 A1